

semiconductor layer group is located on the buffer layer and comprises a third semiconductor nitride including at least Ga, and is independent from the buffer layer and the underlayer. The Al content of the third semiconductor nitride is set smaller than that of the first semiconductor nitride, the thickness of the underlayer is set within 0.5-1000 μm , and the thickness of the buffer layer is set within 0.002-0.1 μm .

Kunisato discloses a substrate (1) having a buffer layer (2) and an underlayer (3) layered in successive series as numbered. First, the Examiner is respectfully requested to note the following functional differences between a buffer layer and an underlayer, these differences being more than just their location within the stack of layers. Kunisato, in column 5, lines 51-59, discloses that the substrate (1) is held at a non-single crystal growth temperature of 600° C. to grow the 110 Å thick non-single crystal undoped AlGa_N buffer layer (2). Kunisato, in column 5, lines 60-65, discloses holding both the substrate (1) and the buffer layer (2) at a single crystal growth temperature of 1000-1200° C to grow the 0.2 μm thick single-crystal undoped Ga_N layer (3) on top of the buffer layer (2). Accordingly, the functions of the two layers are substantially different - they do not merely have different names ("underlayer" and "buffer").

The layers recited in claim 1 of the present invention are substantially different in structure and thickness to those disclosed in Kunisato. Per claim 1, the first layer located on the substrate is a 0.5-1000 μm thick underlayer, which is formed at, for example, 1150° C., as described in paragraph [0041]. This is significantly different than the 110 Å (.011 μm) buffer layer of Kunisato. The second layer located above the substrate, per claim 1, is a 0.002-0.1 μm buffer layer, which is formed at, for example, 600° C., as described in paragraph [0045]. This is significantly different than the 0.2 μm underlayer of Kunisato. Therefore, Kunisato does not disclose the order or structure of the layers as recited in claim 1

Morita is relied on in the Office Action for alleged disclosure of a 30 nm buffer layer. Accordingly, the alleged disclosure in Morita relied on in the Office Action